

Fig. 2: Web of *Gasteracantha hasseltii* with indistinct fuzzy silk beads

with a few silken strands. The orb-web had very faint silken beads or fuzzy silk on the radial as well as on the spiral threads, which were noticed only after close and careful observation. Moreover, these beads or fuzzy silk were not observed in the webs of subadults. The web was made among the low line vegetation, very close to ground level (3-4 cm above the ground) and its diameter was about 40-56 cm. The size of the web varied considerably, depending on the availability of space. These spiders were sighted from April to November in the JSBWS. Juveniles were seen more frequently in April-May, while adults were found till November.

Tikader (1987) opined that *Gasteracantha* uses the silken beads in their web mainly as a

scaring or camouflaging device against predators. *G. hasseltii* make their webs in the lower strata of the forest ecosystem where they are well camouflaged with the ground vegetation against predators. Hence, *G. hasseltii* needs no false silken bead in their web for protection. *G. unguifera* make the web above the ground cover, which make them noticeable to predators. Therefore, they make a number of conspicuous silken beads in the web to misguide their predator. Hence, it can be concluded that *Gasteracantha* species, which occupy various vertical strata in a forest, alter their web patterns probably to suit their surroundings and thus escape predation.

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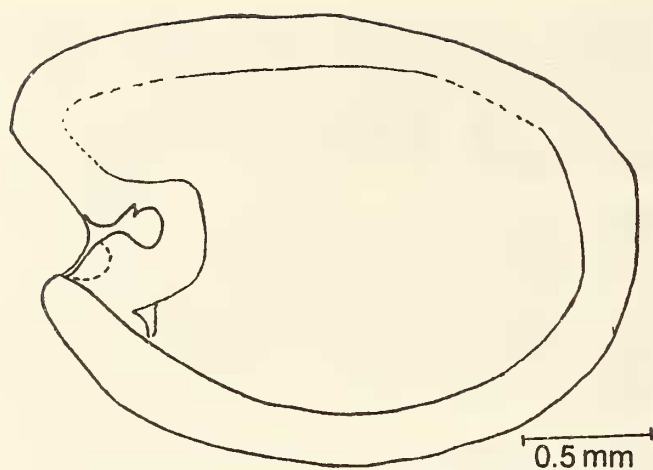
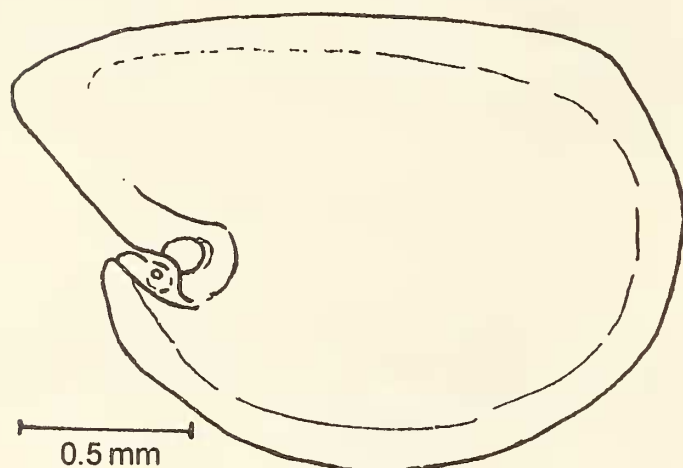
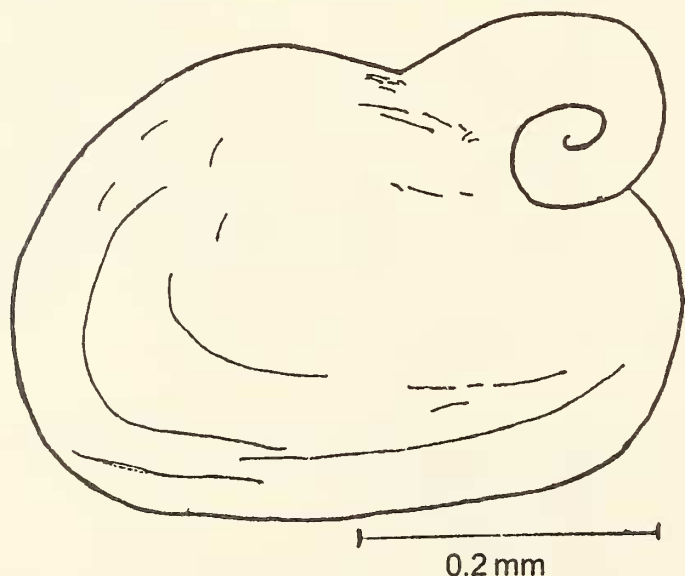
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38. FIRST RECORD OF *JULIA JAPONICA*, A BIVALVED GASTROPOD FROM THE INDIAN OCEAN

(With three text-figures)

Bivalved gastropods were first recorded from Indian seas by Pravakar Rao (1965). He

recorded *Berthelinia (Thamanovalva) limax* from the Mandapam camp, Gulf of Mannar, among

Fig. 1. Right valve *Julia japonica*Fig. 2: Right valve *Julia burni*Fig. 3: Left valve *Berthelinia* sp.

green alga *Caulerpa racemosa*. Subsequently, this species along with *B. (T.) ganapatii* and *B. (T.) waltirensis* was reported from the Visakhapatnam coast (Ganapati and Sarma 1968, 1972; Sarma 1975). *B. (T.) schlumbergeri* and *Julia burni* were reported from the Andaman coast (Ganapati and Sarma 1972; Sarma 1975). Recently, Sarma and Chatterjee (1991) reported a *Berthelinia* sp. from the Kovalam beach, Kerala, west coast of India. While engaged in the phytal-faunal associations of *Halimeda opuntia* of Chiriatapu coast of Andaman, a few shells of *Julia japonica* were also encountered.

Spawning habit in *Julia* was described by Kuroda and Habe (1951). Live *Julia japonica* and their feeding and spawning habits were described by Kawaguti and Yamasu (1962, 1966) from the Sea of Japan. The present finding represents the first report of *Julia japonica* from the Indian Ocean.

The shells are 1 to 2.4 mm long. Both right and left valves are thick and heavy (Fig. 1). Each valve is in chordate form. A scar of protoconch is present on the tip of the umbo of the left valve. Besides *Julia japonica* a few shells of *Julia burni* (Fig. 2) and *Berthelinia* sp. (Fig. 3) were also collected.

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39. OCCURRENCE OF *KLEINHOVIA HOSPITA* L. (STERCULIACEAE) IN MARATHWADA REGION OF MAHARASHTRA STATE

During a floristic and ethnobotanical survey of Nanded district, Marathwada, Maharashtra State, a plant of Family Sterculiaceae *Kleinhovia hospita* L. was detected in the botanical garden of Science College, Nanded. This plant is a common cultivated avenue tree in Mumbai, mostly grown in Parsi holy places. It is a native of Moluccas Islands of eastern Malaysia. Naik (1998) in his FLORA OF MARATHWADA has reported only one specimen in Aurangabad city of Marathwada region, Maharashtra State, but the plant no longer exists in Aurangabad and the authors have confirmed it.

The present authors correctly identified and deposited the voucher specimens in the herbarium of the Postgraduate Department of Botany, Science College, Nanded. It is pertinent to note that recently (Alverson *et al.* 1999) during their cladistic studies of the core Malvales from the ndhF sequence data (ndhF is a chloroplast

gene) have confirmed the inclusion of this plant and genus *Kleinhovia*, as suggested long ago by Zebe (1915), in the tribe Byttneridideae and excluded it from Helictereeae of Family Sterculiaceae as suggested by Takhtajan (1997). Occurrence of only a single plant specimen in a 64,792 sq. km area is alarming, and deserves attention from the conservation point of view.

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40. EXTERNAL MORPHOLOGY OF TESTA IN MANGO *MANGIFERA INDICA* AND ITS VALUE IN THE CULTIVAR CHARACTERISATION OF THE CROP

(With one plate)

The significance of SEM studies of testa morphology, at species level, in plant taxonomy

has been demonstrated in some angiosperms. However, its value at the level of varieties or